

CLAIMS

1. A process for preparing a fertilizer composition, characterized in that it comprises the following steps:

a) reacting a humified fossil material, which is selected from the group comprising leonardite, lignite, xylite and peat, in water in the presence of gluconic acid; and

b) subsequently adding to the mixture an alkaline agent in such a quantity as to adjust the pH to a basic value.

2. A process according to claim 1, characterized in that the quantity of gluconic acid added, expressed as gluconic acid at 50% by weight, is from 3% to 10% by weight relative to the weight of the fossil material.

3. A process according to claim 1 or claim 2, characterized in that the alkaline agent is potassium hydroxide or ammonium hydroxide.

4. A process according to any one of claims 1 to 3, characterized in that the alkaline agent is potassium hydroxide, added at a quantity of from 6% to 15% by weight relative to the weight of the fossil material, said quantity being expressed as potassium hydroxide at from 48-50% by weight.

5. A process according to any one of claims 1 to 4, characterized in that the gluconic acid is added in such a quantity as to adjust the pH to values of less than 3 and preferably less than 2.5.

6. A process according to any one of claims 1 to 5, wherein step a) is carried out at a temperature not greater than 30°C.

7. A process according to any one of claims 1 to 6, wherein step a) is continued for a time of from 2 to 4 hours with agitation, which is followed by an optional stationary period for a time of from 6 to 12 hours.

8. A process according to any one of claims 1 to 7, wherein, in step b), agitation is continued for a time of from 6 to 12 hours, followed by an optional stationary period of up to 24 hours.

9. A process according to any one of claims 1 to 8, characterized in that it comprises the addition of macronutrient and micronutrient substances to the product of step b).

10. A process according to claim 9, characterized in that it comprises the addition of urea in quantities of from 10% to 60% relative to the weight of the fossil material.

11. A process according to claim 9 or 10, characterized in that it comprises the addition of plant extracts, in particular extracts of castor beans and lupin seeds.

12. A process according to any one of the preceding claims, wherein the product obtained by step b) is subjected to drying and granulation in order to produce a composition in granular form.

13. A process according to claim 12, characterized in that the granular composition is mixed with super-absorbent polymer substances, in particular derivatives of hydrolyzed starch, for preparing a granular composition having a high level of water retention.

14. A process according to any one of claims 1 to 9, characterized in that the product of step b) is subjected to fil-

tration with separation of the liquid phase which is intended for use as a liquid fertilizer.

15. A process according to claim 14, characterized in that the liquid phase obtained by the filtration is supplemented with urea in quantities of from 20% to 60% relative to the weight of the liquid phase.

16. A process according to any one of the preceding claims, characterized in that the fossil material is a leonardite ore.

17. Fertilizer compositions in liquid form, which can be obtained by means of the process according to any one of the claims 1 to 11 and 14 to 16.

18. Fertilizer compositions in granular form, which can be obtained by means of the process according to any one of claims 1 to 13.

19. Use of a granular composition according to claim 18 as a fertilizer, in particular for increasing plant growth.

20. Use of a granular composition according to claim 18 in order to increase the fertility of agricultural soils or in order to decontaminate soils polluted by chemical products and/or toxic metal ions.

21. Use of a liquid composition according to claim 17 in order to fertilize by localized irrigation and/or by spraying leaves.